

CLAIMS

1. An assembling structure of a generator comprising (a) a first core and (b) a second core attachable 5 to each other, (c) a plurality of extending core portions interposed between the first and second cores, and (d) primary and secondary windings wound around the extending core portions,

which the assembling structure comprises the first 10 and second cores, and the plurality of extending core portions which have the primary and/or secondary windings wound therearound and may be integrated at least partially with at least one of the first and second cores,

wherein at least one member among (i) the first 15 core, (ii) the second core and (iii) the plurality of extending core portions is attachable to the other adjacent member(s) in the form that the primary and/or secondary windings is/are wound around the extending core portion.

2. The assembling structure according to claim 1, 20 wherein the generator comprises (a) a hollow cylindrical core and (b) a cylindrical columnar core adapted to be attached into the hollow area of the hollow cylindrical core, (c) a plurality of extending core portions interposed between the hollow cylindrical core and the cylindrical 25 columnar core and radially extending at predetermined spacing in the circumferential direction, (e) slots formed between adjacent ones of the extending core portions, and

(d) primary and secondary windings wound around the extending core portions between the slots,

which the assembling structure comprises the hollow cylindrical core, the cylindrical columnar core, and the 5 extending core portions which have the primary and/or secondary windings wound therearound between the slots and may be integrated at least partially with at least one of the hollow cylindrical core (1) and the cylindrical columnar core (2),

10 wherein at least one member among the hollow cylindrical core (1), the cylindrical columnar core (2), and the plurality of extending core portions (3) is attachable to the other adjacent member(s) in the form that the primary and/or secondary windings is/are wound around 15 the extending core portions between the slots.

3. The assembling structure according to claim 1, wherein the primary winding is wound to generate an alternating magnetic field and a rotating magnetic field in one of the first and second cores, and the secondary 20 winding is wound to intersect with the alternating magnetic field and the rotating magnetic field generated by the primary winding.

4. The assembling structure according to claim 1, wherein at least one of the first and second cores is 25 integrated with the plurality of extending core portions having the primary and secondary windings wound therearound, and the other core is attachable to the one core.

5. The assembling structure according to claim 2,
wherein at least one of the hollow cylindrical core and
the cylindrical columnar core is integrated with the
plurality of extending core portions having the primary
5 and secondary windings wound therearound, and the other
core is attachable to the one core.

6. The assembling structure according to claim 5,
wherein the plurality of extending core portions having
the primary and secondary windings wound therearound are
10 extending from the outer circumferential surface of the
cylindrical columnar core and integrated with the
cylindrical columnar core.

7. The assembling structure according to claim 5,
wherein the plurality of extending core portions having
15 the primary and secondary windings wound therearound are
extending from the inner circumferential surface of the
hollow cylindrical core and integrated with the hollow
cylindrical core.

8. The assembling structure according to claim 2,
20 wherein the plurality of extending core portions are each
composed of: a first extending section having the primary
or secondary winding wound therearound and integrated with
the hollow cylindrical core at the inner circumferential
surface thereof; and a second extending section having the
25 secondary or primary winding wound therearound and
integrated with the cylindrical columnar core at the outer
circumferential surface thereof, and the second extending

section is capable of facing the first extending section.

9. The assembling structure according to claim 1, which comprises (a) first disk-shaped core and (b) second disk-shaped core attachable to each other in an axially 5 laminated configuration (c) a plurality of columnar extending core portions interposed between the first and second disk-shaped cores and extending perpendicularly to the disk-shaped cores at predetermined spacing in the circumferential direction, and (d) primary and secondary 10 windings wound around the columnar core portions.

10. The assembling structure according to claim 9, wherein the plurality of columnar extending core portions are each composed of: a first columnar extending section having the primary winding wound therearound and integrated 15 with the first disk-shaped core; and a second columnar extending section having the secondary winding wound therearound and integrated with the second disk-shaped core, and the second columnar extending section is capable of facing the first columnar extending section, and wherein 20 the first and second disk-shaped cores are attachable to each other in the form that the first and second columnar extending sections are faced each other.

11. A method of assembling a generator comprising (a) a first core and (b) a second core attachable to each 25 other, (c) a plurality of extending core portions interposed between the first and second cores, and (d) primary and secondary windings wound around the extending core portions,

which the method comprises attaching at least one member among (i) the first core, (ii) the second core and (iii) the plurality of extending core portions to the other adjacent member(s) in the form that the primary and/or secondary windings is/are wound around the extending core portions,

wherein the plurality of extending core portions, which have the primary and/or secondary windings wound therearound, may be integrated at least partially with at least one of the first and second cores.

12. The assembling method according to claim 11, wherein the generator comprises (a) a hollow cylindrical core and (b) a cylindrical columnar core adapted to be attached into the hollow area of the hollow cylindrical core, (c) a plurality of extending core portions interposed between the hollow cylindrical core and the cylindrical columnar core and radially extending at predetermined spacing in the circumferential direction, (e) slots formed between adjacent ones of the extending core portions, and (d) primary and secondary windings wound around the extending core portions between the slots,

which the method comprises attaching at least one member among the hollow cylindrical core (1), the cylindrical columnar core (2), and the plurality of extending core portions (3) to the other adjacent member(s) in the form that the primary and/or secondary windings is/are wound around the extending core portions between the slots,

wherein the plurality of extending core portions, which have the primary and/or secondary windings wound therearound, may be integrated at least partially with at least one of the hollow cylindrical core (1) and the 5 cylindrical columnar core (2).

13. The assembling method according to claim 11, wherein the assembling structure comprises (a) a first disk-shaped core and (b) second disk-shaped core attachable to each other in an axially laminated configuration, (c) 10 a plurality of columnar extending core portions interposed between the first and second disk-shaped cores and perpendicularly extending to the disk-shaped cores at predetermined spacing in the circumferential direction, and (d) primary and secondary windings wound around the 15 columnar extending core portions,

which the method comprises attaching at least one member among the first and second disk-shaped cores and the plurality of columnar extending core portions to the other adjacent member(s) in the form that the primary and/or 20 secondary windings is/are wound around the extending core portions.